

SEQUENCE LISTING

<110> FRASER, DOUGLAS
ST. GALLAY, STEVEN

<120> HUMAN HOMOLOGUE OF BOVINE NEUROENDOCRINE SECRETORY PROTEIN,
NESP55, POLYNUCLEOTIDES AND USES THEREOF LINKED WITH OBESITY

<130> KNI-004CPUS

<140> 10/031,841

<141> 2002-01-22

<150> PCT/EP00/06921

<151> 2000-07-20

<150> GB 9917165.4

<151> 1999-07-22

<160> 17

<170> PatentIn 3.2

<210> 1

<211> 2235

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (3)...(761)

<400> 1

ga att cgg ctc gag gtg cct aag agg atg gat cgg agg tcc cgg gct	47
Ile Arg Leu Glu Val Pro Lys Arg Met Asp Arg Arg Ser Arg Ala	
1 5 10 15	
cag cag tgg cgc cga gct cgc cat aat tac aac gac ctg tgc ccg ccc	95
Gln Gln Trp Arg Arg Ala Arg His Asn Tyr Asn Asp Leu Cys Pro Pro	
20 25 30	
ata ggc cgc cgg gca gcc acc gcg ctc ctc tgg ctc tcc tgc tcc atc	143
Ile Gly Arg Arg Ala Ala Thr Ala Leu Leu Trp Leu Ser Cys Ser Ile	
35 40 45	
gcg ctc ctc cgc gcc ctt gcc acc tcc aac gcc cgt gcc cag cag cgc	191
Ala Leu Leu Arg Ala Leu Ala Thr Ser Asn Ala Arg Ala Gln Gln Arg	
50 55 60	
gcg gct gcc caa cag cgc cgg agc ttc ctt aac gcc cac cac cgc tcc	239
Ala Ala Ala Gln Gln Arg Arg Ser Phe Leu Asn Ala His His Arg Ser	
65 70 75	
ggc gcc cag gta ttc cct gag tcc ccc gaa tcg gaa tct gac cac gag	287
Gly Ala Gln Val Phe Pro Glu Ser Pro Glu Ser Glu Ser Asp His Glu	
80 85 90 95	

cac gag gag gca gac ctt gag ctg tcc ctc ccc gag tgc cta gag tac 335
 His Glu Glu Ala Asp Leu Glu Leu Ser Leu Pro Glu Cys Leu Glu Tyr
 100 105 110

gag gaa gag ttc gac tac gag acc gag agc gag acc gag tcc gaa atc 383
 Glu Glu Glu Phe Asp Tyr Glu Thr Glu Ser Glu Thr Glu Ser Glu Ile
 115 120 125

gag tcc gag acc gac ttc gag acc gag cct gag acc gcc ccc acc act 431
 Glu Ser Glu Thr Asp Phe Glu Thr Glu Pro Glu Thr Ala Pro Thr Thr
 130 135 140

gag ccc gag acc gag cct gaa gac gat cgc ggc ccg gtg gtg ccc aag 479
 Glu Pro Glu Thr Glu Pro Glu Asp Asp Arg Gly Pro Val Val Pro Lys
 145 150 155

cac tcc acc ttc ggc cag tcc ctc acc cag cgt ctg cac gct ctc aag 527
 His Ser Thr Phe Gly Gln Ser Leu Thr Gln Arg Leu His Ala Leu Lys
 160 165 170 175

ttg cga agc ccc gac gcc tcc cca agt cgc gcg ccg ccc agc act cag 575
 Leu Arg Ser Pro Asp Ala Ser Pro Ser Arg Ala Pro Pro Ser Thr Gln
 180 185 190

gag ccc cag agc ccc agg gaa ggg gag gag ctc aag ccc gag gac aaa 623
 Glu Pro Gln Ser Pro Arg Glu Gly Glu Glu Leu Lys Pro Glu Asp Lys
 195 200 205

gat cca agg gac ccc gaa gag tcg aag gag ccc aag gag gag aag cag 671
 Asp Pro Arg Asp Pro Glu Glu Ser Lys Glu Pro Lys Glu Glu Lys Gln
 210 215 220

cgg cgt cgc tgc aag cca aag aag ccc acc cgc cgt gac gcg tcc ccg 719
 Arg Arg Arg Cys Lys Pro Lys Lys Pro Thr Arg Arg Asp Ala Ser Pro
 225 230 235

gag tcc cct tcc aaa aag gga ccc atc ccc atc cgg cgt cac 761
 Glu Ser Pro Ser Lys Lys Gly Pro Ile Pro Ile Arg Arg His
 240 245 250

taatggagga cgccgtccag attctccttg ttttcatgga ttcagggtgct ggagaatctg 821
 gtaaaagcac cattgtgaag cagatgagga tcctgcatgt taatgggttt aatggagagg 881
 gcggcgaaga ggaccgcgag gctgcaagga gcaacagcga tgggtgagaag gcaaccaaag 941
 tgcaggacat caaaaacaac ctgaaagagg cgattgaaac cattgtggcc gccatgagca 1001
 acctggtgcc ccccggtggag ctggccaacc ccgagaacca gttcagagtg gactacattc 1061
 tgagtgtgat gaacgtgcct gactttgact tccctcccga attctatgag catgccaagg 1121
 ctctgtggga ggatgaagga gtgcgtgcct gctacgaacg ctccaacgag taccagctga 1181
 ttgactgtgc ccagtacttc ctggacaaga tcgacgtgat caagcaggct gactatgtgc 1241
 cgagcgatca ggacctgctt cgctgccgtg tcctgacttc tggaatcttt gagaccaagt 1301
 tccaggtgga caaagtcaac ttccacatgt ttgacgtggg tggccagcgc gatgaacgcc 1361
 gcaagtggat ccagtgcctc aacgatgtga ctgccatcat ctctgtggtg gccagcagca 1421
 gctacaacat ggtcatccgg gaggacaacc agaccaaccg cctgcaggag gctctgaacc 1481
 tcttcaagag catctggaac aacagatggc tgcgcacat ctctgtgatc ctgttctca 1541
 acaagcaaga tctgctcgct gagaaagtcc ttgctgggaa atcgaagatt gaggactact 1601
 ttccagaatt tgctcgctac actactcctg aggatgctac tcccagagccc ggagaggacc 1661
 cacgcgtgac ccgggccaag tacttcattc gagatgagtt tctgaggatc agcactgcca 1721
 gtggagatgg gcgtcactac tgctaccctc atttcacctg cgctgtggac actgagaaca 1781
 tccgccgtgt gttcaacgac tgccgtgaca tcattcagcg catgcacctt cgtcagtagc 1841

3

```

agctgctcta agaaggggaac ccccaaattt aattaaagcc ttaagcacia ttaattaa 1901
gtgaaacgta attgtacaag cagttaatca cccaccatag ggcattgatta acaaagcaac 1961
ctttcccttc ccccgagtga ttttgcgaaa cccctctttc ccttcagctt gcttagatgt 2021
tccaaattta gaaagcttaa ggcggcctac agaaaaagga aaaaaggcca caaaagttcc 2081
ctctcacttt cagtaaaaaat aaataaaaaca gcagcagcaa acaaataaaa tgaaataaaa 2141
gaaacaaatg aaataaatat tgtgttgtgc agcattaaaa aaaatcaaaa taaaaattaa 2201
atgtgagcaa aaaaaaaaaa aaaaggcgcg cgcg 2235

```

<210> 2

<211> 253

<212> PRT

<213> Homo sapiens

<400> 2

```

Ile Arg Leu Glu Val Pro Lys Arg Met Asp Arg Arg Ser Arg Ala Gln
 1              5              10              15

Gln Trp Arg Arg Ala Arg His Asn Tyr Asn Asp Leu Cys Pro Pro Ile
          20              25              30

Gly Arg Arg Ala Ala Thr Ala Leu Leu Trp Leu Ser Cys Ser Ile Ala
          35              40              45

Leu Leu Arg Ala Leu Ala Thr Ser Asn Ala Arg Ala Gln Gln Arg Ala
          50              55              60

Ala Ala Gln Gln Arg Arg Ser Phe Leu Asn Ala His His Arg Ser Gly
65              70              75              80

Ala Gln Val Phe Pro Glu Ser Pro Glu Ser Glu Ser Asp His Glu His
          85              90              95

Glu Glu Ala Asp Leu Glu Leu Ser Leu Pro Glu Cys Leu Glu Tyr Glu
          100              105              110

Glu Glu Phe Asp Tyr Glu Thr Glu Ser Glu Thr Glu Ser Glu Ile Glu
          115              120              125

Ser Glu Thr Asp Phe Glu Thr Glu Pro Glu Thr Ala Pro Thr Thr Glu
          130              135              140

Pro Glu Thr Glu Pro Glu Asp Asp Arg Gly Pro Val Val Pro Lys His
145              150              155              160

Ser Thr Phe Gly Gln Ser Leu Thr Gln Arg Leu His Ala Leu Lys Leu
          165              170              175

Arg Ser Pro Asp Ala Ser Pro Ser Arg Ala Pro Pro Ser Thr Gln Glu
          180              185              190

Pro Gln Ser Pro Arg Glu Gly Glu Glu Leu Lys Pro Glu Asp Lys Asp
          195              200              205

Pro Arg Asp Pro Glu Glu Ser Lys Glu Pro Lys Glu Glu Lys Gln Arg
          210              215              220

Arg Arg Cys Lys Pro Lys Lys Pro Thr Arg Arg Asp Ala Ser Pro Glu
225              230              235              240

```

Ser Pro Ser Lys Lys Gly Pro Ile Pro Ile Arg Arg His
245 250

<210> 3
<211> 4
<212> PRT
<213> Bovine Sp.

<400> 3
Leu Ser Ala Leu
1

<210> 4
<211> 8
<212> PRT
<213> Bovine Sp.

<400> 4
Gly Ala Ile Pro Ile Arg Arg His
1 5

<210> 5
<211> 4
<212> PRT
<213> Homo sapiens

<400> 5
Leu His Ala Leu
1

<210> 6
<211> 8
<212> PRT
<213> Homo sapiens

<400> 6
Gly Pro Ile Pro Ile Arg Arg His
1 5

<210> 7
<211> 4
<212> PRT
<213> Homo sapiens

<400> 7
Ser Phe Leu Asn
1

<210> 8
<211> 4
<212> PRT

5

<213> Homo sapiens

<400> 8

Pro Ser Lys Lys

1

<210> 9

<211> 4

<212> PRT

<213> Homo sapiens

<400> 9

Met Asp Arg Arg

1

<210> 10

<211> 4

<212> PRT

<213> Homo sapiens

<400> 10

Ala Thr Ala Leu

1

<210> 11

<211> 64

<212> PRT

<213> Homo sapiens

<220>

<221> MOD_RES

<222> (1)..(30)

<223> any amino acid, which may or may not be present

<220>

<221> MOD_RES

<222> (35)..(64)

<223> any amino acid, which may or may not be present

<400> 11

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu His

20

25

30

Ala Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

35

40

45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

50

55

60

<210> 12

<211> 68

6

<212> PRT
 <213> Homo sapiens

<220>
 <221> MOD_RES
 <222> (1)..(30)
 <223> any amino acid, which may or may not be present

<220>
 <221> MOD_RES
 <222> (39)..(68)
 <223> any amino acid, which may or may not be present

<400> 12
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Pro
 20 25 30
 Ile Pro Ile Arg Arg His Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 35 40 45
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 50 55 60
 Xaa Xaa Xaa Xaa
 65

<210> 13
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 13
 Gln Arg Leu His Ala Leu Lys Leu Arg Ser Pro
 1 5 10

<210> 14
 <211> 11
 <212> PRT
 <213> Bovine Sp.

<400> 14
 Glu Arg Leu Ser Ala Leu Arg Leu Arg Ser Pro
 1 5 10

<210> 15
 <211> 241
 <212> PRT
 <213> Bovine sp.

7

<400> 15

Met Asp Arg Arg Ser Arg Pro Gln Leu Gly Arg Arg Ala Arg His Asn
 1 5 10 15
 Tyr Asn Asp Leu Cys Pro Pro Ile Gly Arg Arg Ala Ala Thr Ala Leu
 20 25 30
 Leu Trp Leu Ser Cys Ser Ile Ala Leu Leu Arg Ala Leu Ala Thr Ser
 35 40 45
 Ser Thr Arg Ala Gln Gln Arg Ala Ala Ala Gln Arg Arg Thr Phe Leu
 50 55 60
 Asn Ala His His Arg Ser Ala Ala Gln Val Phe Pro Glu Pro Pro Glu
 65 70 75 80
 Ser Asp His Glu Asp Thr Asp Phe Glu Pro Ser Leu Pro Glu Cys Pro
 85 90 95
 Glu Tyr Gln Glu Glu Glu Phe Asp Tyr Glu Ser Glu Thr Glu Ser Glu
 100 105 110
 Ser Glu Ile Glu Ser Glu Thr Glu Phe Glu Thr Glu Ser Asp Thr Ala
 115 120 125
 Pro Thr Thr Glu Pro Glu Thr Glu Pro Glu Asp Glu Pro Gly Pro Val
 130 135 140
 Val Pro Lys Arg Pro Thr Phe His Gln Ser Leu Thr Glu Arg Leu Ser
 145 150 155 160
 Ala Leu Arg Leu Arg Ser Pro Asp Ala Ser Pro Ser Arg Ala Pro Pro
 165 170 175
 Ser Thr Gln Glu Ser Glu Ser Pro Arg Gln Gly Glu Glu Pro Glu Asp
 180 185 190
 Lys Asp Pro Arg Asp Pro Glu Glu Ser Glu Glu Pro Lys Glu Glu Glu
 195 200 205
 Lys Gln Gln Gln His Arg Cys Lys Pro Lys Lys Pro Thr Arg Arg Asp
 210 215 220
 Pro Ser Pro Glu Ser Pro Ser Lys Arg Gly Ala Ile Pro Ile Arg Arg
 225 230 235 240
 His

<210> 16

<211> 256

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Consensus
 Sequence

<220>
<221> MOD_RES
<222> (1)..(8)
<223> any amino acid

<220>
<221> MOD_RES
<222> (15)
<223> any amino acid

<220>
<221> MOD_RES
<222> (17)..(18)
<223> any amino acid

<220>
<221> MOD_RES
<222> (57)..(58)
<223> any amino acid

<220>
<221> MOD_RES
<222> (68)
<223> any amino acid

<220>
<221> MOD_RES
<222> (71)
<223> any amino acid

<220>
<221> MOD_RES
<222> (80)
<223> any amino acid

<220>
<221> MOD_RES
<222> (87)
<223> any amino acid

<220>
<221> MOD_RES
<222> (91)..(95)
<223> any amino acid

<220>
<221> MOD_RES
<222> (98)..(99)
<223> any amino acid

<220>
<221> MOD_RES
<222> (101)
<223> any amino acid

<220>
<221> MOD_RES

<222> (103)
<223> any amino acid

<220>
<221> MOD_RES
<222> (109)
<223> any amino acid

<220>
<221> MOD_RES
<222> (112)
<223> any amino acid

<220>
<221> MOD_RES
<222> (120)
<223> any amino acid

<220>
<221> MOD_RES
<222> (122)
<223> any amino acid

<220>
<221> MOD_RES
<222> (124)
<223> any amino acid

<220>
<221> MOD_RES
<222> (133)
<223> any amino acid

<220>
<221> MOD_RES
<222> (138)..(139)
<223> any amino acid

<220>
<221> MOD_RES
<222> (153)..(154)
<223> any amino acid

<220>
<221> MOD_RES
<222> (161)..(162)
<223> any amino acid

<220>
<221> MOD_RES
<222> (165)
<223> any amino acid

<220>
<221> MOD_RES
<222> (173)
<223> any amino acid

10

<220>
 <221> MOD_RES
 <222> (176)
 <223> any amino acid

<220>
 <221> MOD_RES
 <222> (194)
 <223> any amino acid

<220>
 <221> MOD_RES
 <222> (202)..(204)
 <223> any amino acid

<220>
 <221> MOD_RES
 <222> (217)
 <223> any amino acid

<220>
 <221> MOD_RES
 <222> (223)..(225)
 <223> any amino acid

<220>
 <221> MOD_RES
 <222> (227)..(228)
 <223> any amino acid

<220>
 <221> MOD_RES
 <222> (240)
 <223> any amino acid

<220>
 <221> MOD_RES
 <222> (248)
 <223> any amino acid

<220>
 <221> MOD_RES
 <222> (250)
 <223> any amino acid

<400> 16
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Met Asp Arg Arg Ser Arg Xaa Gln
 1 5 10 15
 Xaa Xaa Arg Arg Ala Arg His Asn Tyr Asn Asp Leu Cys Pro Pro Ile
 20 25 30
 Gly Arg Arg Ala Ala Thr Ala Leu Leu Trp Leu Ser Cys Ser Ile Ala
 35 40 45
 Leu Leu Arg Ala Leu Ala Thr Ser Xaa Xaa Arg Ala Gln Gln Arg Ala
 50 55 60

11

Ala Ala Gln Xaa Arg Arg Xaa Phe Leu Asn Ala His His Arg Ser Xaa
 65 70 75 80
 Ala Gln Val Phe Pro Glu Xaa Pro Glu Ser Xaa Xaa Xaa Xaa Xaa His
 85 90 95
 Glu Xaa Xaa Asp Xaa Glu Xaa Ser Leu Pro Glu Cys Xaa Glu Tyr Xaa
 100 105 110
 Glu Glu Glu Phe Asp Tyr Glu Xaa Glu Xaa Glu Xaa Glu Ser Glu Ile
 115 120 125
 Glu Ser Glu Thr Xaa Phe Glu Thr Glu Xaa Xaa Thr Ala Pro Thr Thr
 130 135 140
 Glu Pro Glu Thr Glu Pro Glu Asp Xaa Xaa Gly Pro Val Val Pro Lys
 145 150 155 160
 Xaa Xaa Thr Phe Xaa Gln Ser Leu Thr Glx Arg Leu Xaa Ala Leu Xaa
 165 170 175
 Leu Arg Ser Pro Asp Ala Ser Pro Ser Arg Ala Pro Pro Ser Thr Gln
 180 185 190
 Glu Xaa Glx Ser Pro Arg Glx Gly Glu Xaa Xaa Xaa Pro Glu Asp Lys
 195 200 205
 Asp Pro Arg Asp Pro Glu Glu Ser Xaa Glu Pro Lys Glu Glu Xaa Xaa
 210 215 220
 Xaa Gln Xaa Xaa Arg Cys Lys Pro Lys Lys Pro Thr Arg Arg Asp Xaa
 225 230 235 240
 Ser Pro Glu Ser Pro Ser Lys Xaa Gly Xaa Ile Pro Ile Arg Arg His
 245 250 255

<210> 17

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic 6-His tag

<400> 17

His His His His His His